Australian Tiger (*Ictinogomphus australis*) on *Hygrophila angustifolia*

Butterfly & Other Invertebrates Club Inc. Newsletter

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Club Planning and Organizing Group - 2006

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Planning and Organization Meetings

A quarterly meeting is scheduled in order to plan club activities and the newsletter. See BOIC Programme.

Contact Address and Membership Details

PO Box 2113, Runcorn, Queensland 4113
Membership fees are $15.00 for individuals and $20.00 for families, schools and organizations.

Aims of Organization

- To establish a network of people growing butterfly host plants;
- To hold information meetings about invertebrates;
- To organize excursions around the theme of invertebrates e.g. butterflies, native bees, ants, dragonflies, beetles, freshwater habitats, and others;
- To promote the conservation of the invertebrate habitat;
- To promote the keeping of invertebrates as alternative pets;
- To promote research into invertebrates;
- To encourage the construction of invertebrate friendly habitats in urban areas.

Newsletter Deadlines

If you want to submit an item for publication the following deadlines apply:
March issue – February 21st June issue – May 21st
September issue – August 21st December issue – November 21st

Cover Drawing

Australian Tiger *(Ictinogomphus australis)* on *Hygrophila angustifolia*
by Lois Hughes

President's Posting

The Club's Planning and Management meetings are open to all members and at our last meeting it was decided to make a change from a midweek meeting to a Saturday afternoon meeting. We reasoned that, for many members, the constraints of travel, time and work commitments make attendance during midweek difficult. A Saturday afternoon meeting should reduce those constraints. If you are able to do so, you are welcome to come along and share ideas with us.

Please feel free at any time to let us know your thoughts on any activities and excursions that you may like to see organized. Are there topics you would like to see covered in the Newsletter? Can you send us an article or letter?

Many thanks to those who have contributed to this Newsletter.

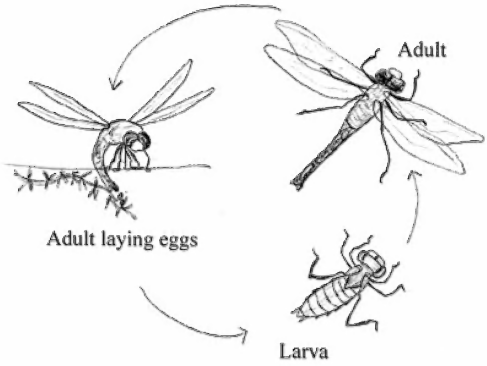
I am sure you will enjoy Angie Tinker's letter from "The Alice". For many of us, it will rekindle memories of our initiation into the world of insects and the desire to share that world with others. Angie's vision to have her children experience and to understand the interdependence of the physical environment and living organisms is one that we all need to beam to a younger generation heavily immersed in an increasingly electronic, abstract world.

You will receive notice of the Club's annual general meeting with this publication and I urge you to come along to the meeting at IndigiScapes if you live in the Brisbane area. ***Ross***

In This Issue

Dragonflies and their life cycle (order Odonata, suborder Anisoptera)

Most people are familiar with dragonflies; in particular their multicoloured bodies and large, bulging eyes. They are often encountered around creeks and ponds, patrolling an area for prey. They have two pairs of long, narrow wings that allow them to zoom past at high speed, never (or at least rarely) allowing them to be caught in an insect net. They may stop momentarily on a piece of aquatic vegetation with their wings glistening in the sun, waiting for you to prepare your camera for a classic photograph – then zoom! They are off again. Often this is as close as most of us get to these beasts. But there is an easier way to observe them…



Dragonflies start their life in water. Their eggs are flicked through the water surface and settle on the substrate or submerged vegetation or are inserted into aquatic vegetation, and the larvae (juvenile stages) spend their life as underwater predators. Often the larvae can be easily collected by sweeping a dip net through patches of submerged vegetation or debris. The larvae do share some physical features with their adult counterparts – large, bulging eyes, and thin lanky legs. However their abdomens tend to be bulky, sometimes rounded, and often spiny - unlike the long, slender abdomens of the adults. And of course they don't have wings! But the older larvae, or late stages, will show buds where the wings are developing. Unlike the showy adults, dragonfly larvae are often brown, and blend in well with the stream bed and woody debris, perfect for ambushing their prey. They eat a variety of aquatic organisms, including mosquito larvae (and each other!) and make a useful addition to a backyard garden pond.

Dragonfly larvae shed their exoskeletons as they get older, until they finally reach the last larval stage. Dragonflies will often climb a plant stem emerging from the water to shed their final juvenile exoskeleton, and you may find the exoskeletons, or exuviae, left behind. The adult dragonfly emerges with newly formed wings outstretched to capture the sun's rays. Once the wings harden sufficiently, they fly away from the water until the wings have hardened fully and sexual maturity is reached (life is pretty hectic in the dragonfly world and a quick escape is often

required from predators, including other dragonflies). After dragonflies have mated, they tend to fly off, joined together. The female will then deposit her eggs as described earlier. Dragonflies have been observed trying to lay eggs onto shiny tiled floors, metallic cars and sealed road surfaces, mistaking them for water!

There are many different species of dragonflies in Australia, and recently some field guides have been released for identification purposes. In this issue John Moss has reviewed two of these publications. Please refer to page 16 for more information.

Now, what about damselflies then? How do they differ from dragonflies? The table below summarised some of the differences. Please note that there are some exceptions:

Dragonfly	Damselfly
Belong to suborder Anisoptera	Belong to suborder Zygoptera
Adults hold their wings flat and perpendicular to their body, at rest	Adults hold their wings together, folded back along their body, at rest
Adults are generally larger, and stronger fliers	Adults are generally smaller, and weaker fliers
Adults have large eyes that generally touch on top of the head	Adults have eyes that are well separated
Adults have fore wings and hind wings that differ in shape and size	Adults have both pairs of wings petiolated and of similar shape and size
Larvae are usually bulky, and have an anal pyramid instead of terminal gills	Larvae are usually slender with three large, terminal gills

Alisha Steward

Comments – Deniss Reeves

Nymph is sometimes used to describe the larval stage but it is an archaic term seldom used today.

Ovipositing: most dragonflies oviposit by flicking their eggs through the water surface, but some of the larger species (hawkers, emperors, petaltails, etc) insert their eggs INTO plant tissue: reed stems, decaying plant debris etc. ALL damselflies lay their eggs into plant tissue.

Dragonfly larvae take water in through the anus and extract oxygen via internal gills (the *branchial basket*).

An important feature of damselfly wings is that they are *petiolated* i.e., they are attached to the thorax by a narrow stalk, the *petiole*.

PLANT PROFILE

Hygrophila angustifolia

Hygrophila angustifolia

Hygrophila (hy-GROFF-il-a); From the Greek hygros, meaning wet or moist; philos, meaning loving. (A lover of water) *angustifolia*; angust, meaning narrow; folia, meaning leaf. (A lover of water with narrow leaves)

H. angustifolia is a member of the Acanthaceae family of flowering plants. It is an erect herb reaching up to 1m tall with opposite narrow leaves reaching 160mm long by 8mm wide. The flowers can be blue, mauve or white with darker markings and are formed in the leaf axils. These are followed by a seed capsule 12-18mm long containing numerous seeds.

Naturally occurring in swampy ground, *H. angustifolia* can be grown in pots and placed in a pond or else stood in a deep saucer which is kept topped up with water.

Seed capsules forming in old leaf axils

H. angustifolia is the host plant for the following butterflies: Dainty Grass-blue (*Zizula hylax*), Chocolate Argus (*Junonia hedonia*), Meadow Argus (*Junonia villida*) and Blue Argus (*Junonia orithya*) and I'm sure it has provided many a good stem for a dragonfly to emerge from its exuvium[1].

It must be noted that *H. angustifolia* will die down during winter and return during spring, spreading and growing into a larger clump during summer.

[1] "exuvium" is a term used to describe the remains of an exoskeleton, left after an insect has moulted.

References: Baines, James A.: "Australian Plant Genera"
PlantNet flora online: http://plantnet.rbgsyd.nsw.gov.au
Stanley & Ross: "Flora of South-eastern Queensland V2"
Photos by Peter Hendry

Peter Hendry

EXCURSION REPORT

Dragonfly Survey in the Cubberla-Witton Catchments: A combined outing with BOIC, Australian Dragonfly Society and Cubberla-Witton Catchments Network.

Saturday, 17th February 2007 saw a small band of dragonfly enthusiasts meet at the lagoon in Biami Yumba Park, Fig Tree Pocket. Unfortunately Deniss Reeves of the Australian Dragonfly Society was unable to come, so armed with the CSIRO's "The Complete Field Guide to Dragonflies of Australia" and Rick Nattrass's "Dragonflies of South East Queensland - A Field Guide," we marched on regardless.

A system soon fell into place, with dragonflies being netted followed by a gathering of the clan, much consulting of the field guides, reaching a consensus and recording of the presumed name. This was followed by much photographing and subsequent release of the specimen.

Although the day was overcast with the sun peeping through at times, many dragonflies were seen and we managed to identify 10 species. Of note was the Chalky Percher (*Diplacodes trivialis*). Rick Nattrass notes that it is a common species in North Queensland but uncommon in SEQ. (See article "Spot the Difference" in this issue). Another sight that enthralled us was observing some of the females ovipositing eggs both in the water and in our hands.

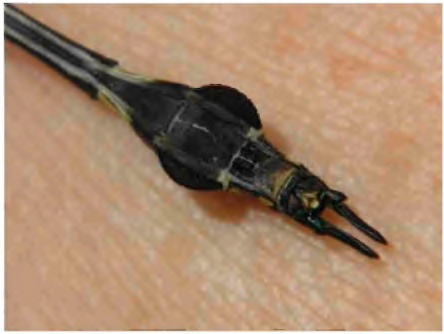
We all had a fine time, and we certainly had a fine morning tea. Many thanks to Jutta Godwin for providing such an array of nibbles and drinks for all.

The following is a list of dragonflies recorded at Biami Yumba Park lagoon, Saturday, 17th February 2007:

Scientific Name	*Common Name*	*Family*
Brachydiplax denticauda	Palemouth	Libellulidae
Diplacodes bipunctata	Wandering Percher	Libellulidae
Diplacodes trivialis	Chalky Percher	Libellulidae
Hydrobasilieus brevistylus	Water Prince	Libellulidae
Ictinogomphus australis	Australian Tiger	Gomphidae
Ischnura heterosticta	Common Bluetail	Coenagrionidae
Orthetrum caledonicum	Blue Skimmer	Libellulidae
Rhyothemis phyllis	Yellow-striped Flutterwing	Libellulidae
Rhyothemis graphiptera	Graphic Flutterwing	Libellulidae
Xanthagrion erythroneurum	Red and Blue Damsel	Coenagrionidae

Peter Hendry

Australian Tiger



Australian Tiger tail

Water Prince female

Water Prince egg mass

Yellow-striped Flutterwing

Wandering Percher

Photos by Peter Hendry

What's going on here?

I took this photo on a property about 18km north of Deepwater, a small town on the New England Highway about half way between Tenterfield and Glenn Innis. I believed it to be a pair of Blue Skimmers (*Orthetrum caledonicum*). On returning home I looked up an old faithful Wildlife of Greater Brisbane published by the Queensland Museum. It had a photo of the male Blue Skimmer, which fitted my photo, but the description of the female did not. I started searching the web and found the Victorian Dragonfly website (http://www.ecology-solutions.com.au/vic_dragonflies/). Their photos of the Blue Skimmer confirmed I did not have a female Blue Skimmer. So were either Blue Skimmers?

I emailed my photo to Simon Mustoe of the Victorian Dragonfly website who confirmed the male to be a Blue Skimmer while he believed the female is possibly from the unrelated genus, *Eusynthemis*, but was unable to put a species name to it. With the next club outing being a dragonfly survey combining, BOIC, Australian Dragonfly Society and Cubberla-Witton Catchments Network, I printed off my photo and waited.

Unfortunately, on the day the main man did not show and I was left with no experts. I was encouraged to email the photo to Deniss Reeves, of the Australian Dragonfly Society and also a member of BOIC. Below is Deniss' reply.

G'day Peter,
Good news - having emailed the dragonfly pic to Günter Theischinger, I received a phone call from him this A.M. The black and yellow job is a female Swamp Tigertail - *Synthemis eustalacta.* Günter was very interested in the "mismatch" which is probably the first record of an attempted copulation between species belonging to different FAMILIES. Mismatches are not frequently seen -- I have seen only three or four instances in the 30+ years I have been "into" dragonflies!
Günter would like to include the pic in a presentation at the Worldwide Dragonfly Association's symposium in Namibia in May and I would like to display a photo so

members can have a close look at this anomaly. I presume you are the photographer, so I am requesting your permission for Günter and I to display the photo to a worldwide horde of very interested and knowledgeable odonatists.

Cheers,
Deniss Reeves.

Well I said yes, and by the way Günter Theischinger is the co-author with John Hawking of my newly acquired book The Complete Field Guide To Dragonflies of Australia. As this is one of my first forays into dragonflies I guess it's all downhill from here.

Peter Hendry

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Cold weather moths

During the Christmas New Year break, I visited a property near the small town of Deepwater on the New England Tableland. Accompanied by John Moss, the club Librarian Janet Willoughby and her husband Ross, we camped for three nights. Although it was the middle of summer the first night turned rather cold and this seemed to be reflected by some of the moths that turned up to the light trap.

Trichiocercus sparshalli

One fellow turned up wearing leg warmers, had his rear end well covered and had the ability to tuck his antennae back under his hairy head to keep them warm. Dressed in a white tuxedo, it turned out to be a member the Notodontidae family of moths, *Trichiocercus sparshalli*. If his get up wasn't enough, he has a party trick up his sleeve; he will feign death when handled. Two specimens of *Spilosoma curvata* representing the Arctiidae family turned up wearing orange-brown with black stripes, mink stoles across their shoulders. These are rather colourful moths with yellow-orange wings with black markings and a red body with

Spilosoma curvata : Showing variation of pattern

black stripes. The black markings on the wings are very variable as seen with these two.

Pararguda rufescens

Looking more like a mouse with wings, a member of the Lasiocampidae family, commonly known as snout moths, was happy to just sit on Janet's fingers. This moth has also turned up at light traps on my bush block west of Bundaberg. The most spectacular moth to turn up was the rather large, *Opodiphthera helena* a member of the Saturniidae family. It occurs from South Queensland to Victoria and the larvae feed on Eucalyptus. At the other end of the scale, one of the smallest moths to turn up was *Edosa xystidophora* a member of the Tineidae family, measuring about 5mm in length.

Edosa xystidophora

Opodiphthera helena

Trichiocercus sparshalli : showing its ability to retract its antennae

In spite of the cold nights, the days were rather hot and John, Janet and I spent a lot of time observing butterflies and many species of dragonflies, as well as the odd red–bellied black snake chasing frogs in a dam. Ross, well Ross went fishing and talks about the one that got away.

Photos by Peter Hendry

Peter Hendry

A note on the "Imperial Fruit Moth" *Phyllodes imperialis* Druce (family NOCTUIDAE sub family Catocalinae)

Phyllodes imperialis

This moth which occurs in subtropical rainforest from north-eastern Queensland to northern N.S.W. is rarely seen in south-eastern Queensland. (The moth and its southern hostplant vine *Carronia multisepalea* were the subject of Creature Feature and Plant Profile, respectively, in BOIC Newsletter No. 25, June 2002.)

Don Sands who has made a study of the moth, considers the local form to be quite distinct from its northern siblings.

Recently, the N.S.W. Society for Insect Studies had an excursion to the Coffs Harbour region specifically to search for this moth. As reported in their December 2006 newsletter (Circular No. 124), they surveyed lowland rainforest in the Dorrigo National Park and an area near Bellingen outside the park where the host vine was eventually found. Some eggs found on the vine subsequently went through to fruit moth (*Eudocima* species) type larvae – but as the article further stated (somewhat ambiguously) "the latest instar of 'the larva' was beginning to look suspiciously like those of *Phyllodes imperialis."* David Britton's photo on page 90 of their newsletter, in our opinion, could only be a *Phyllodes* larva.

We have delayed reporting a confirmed sighting/capture until now. On one of our visits to the Bellthorpe Forest Field Station at West Bellthorpe, in the southern Conondale Range north of Woodford, we encountered two adults of this moth. At 8.36 pm on the 21st January 2006, an adult male *Phyllodes imperialis* flew into our mercury vapour light trap and was secured. It is now in the collection of the first author. Within half an hour, another specimen arrived but we were unable to secure it. According to Don Sands this species has not previously been collected in ultraviolet light traps so we were obviously very fortunate to capture it. Two other fruit piercing moths (*Eudocima* species) were collected on the same night.

This finding of a new site, about 300 metres from the nearest patch of rainforest at 500 metres elevation, is quite significant. At this time we have been unable to locate the hostplant in the nearby rainforest but have yet to do full transect surveying.

This moth has been variously known as the Imperial Fruit Piercing Moth, Imperial Fruit Sucking Moth and Pink Underwing Moth. As it does not have the typical Catocaline proboscal stylet for fruit piercing, the first name should not apply. It feeds on fruit already damaged which means it is not a pest for orchardists. The name Pink

Underwing is applied to at least one European Catocaline moth and is also an ambiguous descriptor as the pink colour is in fact on the upper side of the hindwing. We propose **"Imperial Fruit Moth"** as a fitting name for one so majestic, which is also reflected in its specific name.

John T. Moss and ***Ross Kendall***
24th February 2007

Post script. On Sunday, 4th March 2007, members of the BOIC visited the northern section of the Mt Mee State Forest. While walking along a track in a patch of pristine riparian rainforest, our attention was drawn to an agaristine moth laying eggs on *Cissus antarctica,* a native grape vine. As we attempted to approach and identify this moth, we unexpectedly flushed a large (presumably female) *Phyllodes* from its diurnal perch. This moth was not secured but there was no doubt as to its identity.

The next day while we were investigating an area of rainforest in the West Bellthorpe region about four kilometres east of the Field Station we finally found several *Phyllodes* hostplant vines *(Carronia multisepalea).*

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Southern Sedge-darter *(Telicota eurychlora)*

In February last year the BOIC had an excursion to the property of John and Mary King. They are well known for their popular range of liqueurs made with rainforest fruits harvested from the property.

Those lucky enough to go on the excursion were able to taste quite a range of their liqueurs. We were given a guided tour of part of the property and got to see some of the plants used to produce the liqueurs.

Most of the tour followed the creek and we saw many interesting little creatures that lived in amongst the rocks in the bed of the creek, which flows into the Mary River. On either side of the creek there was a lot of one of the local sedges, *Carex polyantha*. I recognized this as one of the sedges growing at Stony Creek where we had had a previous excursion. On that excursion I had seen small shelters made of the leaves. I had wondered if they had contained the caterpillars of the elusive Southern Sedge-darter that had been recorded at this site. Noticing similar shelters on the plants along this creek, with permission, I collected the largest shelter with its resident caterpillar, took it home and placed it on a potted plant of the same species. Eventually the caterpillar pupated and beautiful specimen of a Southern Sedge-darter emerged.

In southern areas the host plant of this butterfly is *Cladium procerum* but there has been some confusion about the identity of its local host plant here. *Carex polyantha* has been difficult to identify because it does not produce a lot of seed, which is

required to properly identify it. It usually propagates vegetatively by producing underground runners. This is an attractive plant and is also a host for the Evening Brown butterfly, *Melanitis leda* as recorded by John Moss.

Hopefully the building of the Traveston dam on the Mary River won't have a detrimental effect on the habitat of this uncommon butterfly.

Thanks to John Moss for help in identifying the darter and the sedge.

Frank Jordan

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Spot the difference

On a recent joint club outing to undertake a Dragonfly Survey at Fig Tree Pocket, (see report) three similar coloured male dragonflies were captured and identified. These were the Blue Skimmer (*Orthetrum caledonicum*), the Palemouth (*Brachydiplax denticauda*), and the Chalky Percher (*Diplacodes trivialis*).

All three males are a steel blue-grey in colour with a black tip to the abdomen. The Blue Skimmer is the largest of the three with a wing span of 75mm, the Palemouth has a 50mm wing span while the smallest, the Chalky Percher, has a wing span of 47mm. One easily recognizable difference is in the wings. The Palemouth has clear wings; the Blue Skimmer has amber suffusion in the outer third to half of all four wings, while the Chalky Percher has a chalky light grey suffusion in the basal area of the wings, which can be difficult to see unless held.

The eyes vary in colour with the Blue Skimmers being grey-blue, the Palemouths are brown and the Chalky Perchers are blue-green. The top part of the face is called the frons. This stands out on the Palemouth because it is metallic blue compared to its whitish face, while with the other two species the frons is similar in colour to the rest of the face, which in both cases is a pale whitish-blue.

At A Glance:

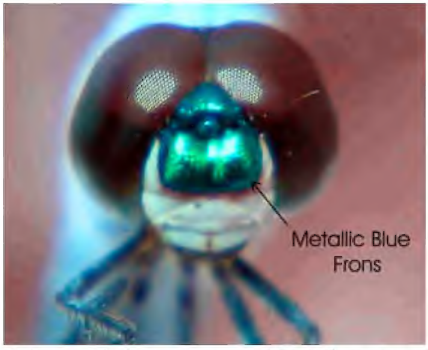
	Wings	**Eyes**	**Frons**	**Face**
Blue Skimmer	Large amount of amber suffusion	Grey-blue	Whitish-blue	Whitish-blue
Palemouth	Clear	Brown	Metallic blue	Whitish
Chalky Percher	Small amount of greyish suffusion near body	Blue-green	Whitish-blue	Whitish-blue

It must be noted that the above relates to males only. ***Peter Hendry***

Blue Skimmer : amber suffusion in wings

Blue Skimmer, green-blue eyes, whitish-blue face and frons

Palemouth : clear wings



Pale mouth, brown eyes, whitish face, metallic blue frons

Chalky Percher : wings with light grey suffusion near body

Chalky percher, grey-blue eyes, whitish-blue face and frons

Photos by Peter Hendry

Dragonfly and damselfly field guides – a comparison of two recent publications. Reviewed by John T. Moss.

The year 2006 was a milestone for the study and appreciation of dragonflies and damselflies (Order Odonata), as it saw the publication of two separate field guides on the subject.

One, "Dragonflies of South East Queensland", privately published by Brisbane naturalist and one time park ranger, Ric Nattrass, covers 86 species which inhabit an area from the Cooloola Shire in the north to the N.S.W. border in the south (presumably extending into the far north coast of N.S.W.) and westward to the Great Dividing Range.

The other, CSIRO's "The Complete Field Guide to Dragonflies of Australia" by noted authorities Gunther Theischinger and John Hawking, as its title suggests, covers the 324 species in 110 genera and 30 families known from continental Australia and Tasmania.

The two books are similar in their approach to the subject but use different species groupings, imagery and binding format.

The conventionally bound, soft covered, 376 page CSIRO book gives very full technical descriptions with detailed line drawings of diagnostic anatomical regions and includes descriptions of many of the larvae or nymphs. There are technical, comprehensive keys for both adults and larvae and although there is an illustrated glossary which visually defines the scientific terminology, I found them quite daunting.

For each species there is a distributional map, with an overall regional key map a useful addition at the start of the species list.

The CSIRO illustrations are either of living specimens or dead preserved material. The former are excellent in the main, but don't always include both sexes, let alone all species (which is understandable). The photos of the preserved insects are not colour retouched and thus are mostly faded specimens, but of some value for size, shape etc. There are quite a few lateral aspect photos which show unique details of thoracic and abdominal markings which should help in identification.

There are good introductory sections on life history, ecology, habitat and conservation as well as an excellent full checklist of species, listing both their scientific and common names. At the end of the book there is a comprehensive reference list and a short but useful list of society contacts. This is followed by easily readable, separate scientific and common name indices.

Finally, the authors have included a very useful section on studying dragonflies which includes hints on photography, collecting, rearing and preserving specimens.

This has limitations as a suitable field guide for the rank amateur or beginner, but as a reference book it is unexcelled.

The privately published Nattrass book (of 116 pages), as indicated above, covers more than a quarter of the Australian species, including many common species which range beyond the limits of the book. (This indicates that the region covered is very rich in odonates). Its sturdy construction with laminated front and back covers, spiral binding and a useful attached 15 cm ruler make it ideal for taking out into the field.

This is a more user friendly publication with much simplified, easy to follow separate keys to the families of dragonflies and damselflies. Useful cross-referencing between similar looking species in different genera allows the user to cover all possible "look-alike" species when doing an "ID" check. This is also assisted by the use of composite, but reduced size, full colour images of all the possibilities on a single page.

Where old faded specimens are illustrated, the author has digitally retouched many of these in the appropriate colour. However, at least one of these, the Flame Flatwing damselfly (*Austroargiolestes amabilis*) on page 23 appears to show the colour pattern of a female for the illustrated male. Also, I recall my observations of this species, in the southern Conondale Range (Bellthorpe Forest section of Stony Creek) as having a vivid orange rather than scarlet colouring and similar to the northern tropical species *A. aureus.*

There is another error on p24 wherein the colour pattern on the thorax of the Golden Flatwing (*A. chrysoides*) female does not correspond to the written description. Likewise, there is a similar error in the CSIRO book wherein the stated colour ("black and yellow") is at variance with the illustrated colours (black and intense orange) in the photos of live male and female specimens (p. 55).

There is at least one instance of nomenclature discrepancy (that I could find), that being the scientific name of the Blue-spotted Hawker, listed as *Aeshna brevistyla* in Nattrass and *Adversaeschna brevistyla* in CSIRO. No doubt the latter name is the result of a recent taxonomic decision to split the species from its original genus on the basis of some important characteristic(s). This situation often occurs in entomology and botany, and can be both confusing and somewhat annoying to the amateur expert.

Users of both books will find images of female odonates, specially dragonflies, a bit lacking. Many females are difficult to identify whilst alive – even males sometimes have difficulty deciding (see P. Hendry article this issue)!

I can recommend both books to the reader - each has a place - but for southeast Queensland/northern N.S.W. the Nattrass book at $40 is a more practical field guide.

It is comforting to note that, in this regard, the CSIRO book is useful as a confirmatory source. The former is available at the Miskin Gallery bookshop, Mount Coot-tha Botanic Gardens (to whom I am grateful for the review copy) or directly from the author at nattrass@ine.com.au. The CSIRO publication at $50 is available from some bookshops and online at www.publish.csiro.au.

AUSTRALIAN NATIVE BEES #9

Stingless Bee Rescues and Transfers - Part 2

In part 1 of this article we dealt with a relatively simple rescue in which the bee colony was left intact within its log home. They certainly would have experienced some disturbance when their tree was felled and the log was shortened to a manageable length, but if you followed the few basic steps previously outlined all they then had to contend with was a few internal hive repairs and the new vista presented by your back yard. Within a day or two such hives should be foraging as though they have always lived there.

But what if the bees' old homesite is badly decayed or in a tree of such diameter that bringing a section home is out of the question? In such cases they may need a complete new house. The focus of this part is on transferring a colony of bees from a log into an artificial hive so let's return to the paddock at the point where the condemned hollow tree has hit the ground and is surrounded by angry bees.

If the tree has decayed to the extent that it disintegrates on impact with the ground you can probably skip the next bit, but usually it is necessary to cut out the section of log containing the colony to enable proper access. In the past I've experimented with drilling holes into the log to try to determine the size of the nest inside the cavity, but in the end I resorted to the simpler (but noisier) 'hairshirt' alternative. Use your chainsaw to cut through the log well above and well below the entrance. Usually a metre below and the same (or a little less) above the entrance will provide enough clearance, but have some regard to the likely diameter of the cavity inside the log. Skinny hollows naturally mean that the bees have to spread their nest further along the cavity to get sufficient living space.

When that's done roll the log clear of the main tree, utilizing a crowbar and the strong mate you brought along for an outing. Clear out the dirt and debris from the hollow ends of the log, but watch out for the ants, scorpions, spiders, centipedes and any other bitey critters that also called this tree home. Progressively cut slices off the top and bottom of the log until you can feel and see the batumen layers that signify the top and bottom of the hive.

By now the bees will be even more stirred up so let them settle down a bit while you get your equipment ready for the next step in the operation. Open up the top of the

Making longitudinal cuts with the chainsaw before splitting log.

artificial hive you brought along so that it is ready to receive the brood. I recommend bringing along an extra hive in case the colony is larger than expected. It may be possible to split the nest into two hives in such circumstances. These hives should be equipped with drain holes or some other feature to allow any honey from broken honey pots to drain away. Have a bucket with a lid ready to receive the excess honey and pollen from the hive.

If you or your mate are really handy with the chainsaw and if the nest's entrance is on a knob, lump or bulge (as is often the case) then cut it off neatly and fix it to the front of your hive with 'Blu Tac' or some other non toxic putty-like substance. Failing that remove some of the resinous material from around the old entrance with a pen knife, soften it in your hands and stick it around the entrance of your hive. Some species don't deposit resin around the entrance so you may need to utilize some cerumen from inside after the log is opened.

Now take a good look at the ends of the log and assess how difficult it would be to split the log lengthways with steel wedges. Some logs with a straight grain in the timber and the presence of radial cracks will split apart quite easily. Others can be as hard as the hobs of hell and require repeated thumping with a very large hammer to make any impression at all. This jarring doesn't do the bees any good, so in that case you are better off using the chainsaw to run longitudinal cuts down opposite sides of the log, increasing the depth with each pass until the log can be prised apart with a crowbar, tyre lever or pinch bar. Before you complete this action get your mate to unfurl the beach umbrella or tarpaulin you made him carry into the site and erect it so that your area of operation is in shade. If he forgot this item, at the very least, make him hold his broad brimmed hat in a position that protects the brood from the sun.

You will now be faced with a sight of some destruction and confusion so be prepared to act quickly but gently. The bee's brown cerumen building material will dominate the scene inside the opened log. Some honey and pollen pots made of this material will have broken open. Honey will be leaking from them and some of the colony's yellow and orange coloured pollen stores will have become dislodged. In the midst of

this seemingly random pattern of storage pots should be the brood cells. With *Trigona carbonaria* bees these are arranged in a regular broad spiral, usually enclosed in a protective involucrum made from several layers of wafer thin sheets of cerumen, although part of this may have been torn away during the opening process.

Using a knife, sharpened spoon or spatula collect some of the undamaged honey and pollen pots and carefully arrange them in the bottom of your hive, leaving room in the middle for the brood. Don't try to collect too much in the way of stores, just enough to tide them over until the foragers get going properly again.

Utilize the same implements to gently remove the brood itself together with as much of the involucrum as you can. Be particularly careful with any larger cells you notice on the outer edge of the brood. These are queen cells and may be vital to the colony's survival if the queen herself has been lost or killed. Also take note of the way the brood was aligned in the tree and put it into your hive the same way – right side up.

A home made aspirator or 'pooter' as they are apparently more commonly known.

In most cases it is a waste of time to make an extensive search for the queen. Hopefully she will be hiding away down inside that brood comb you just transferred, but occasionally she will be spotted somewhere else in the remains of the colony. She may try to hide in the myriad cracks and crevices in the old tree hollow. In this event it is very helpful to have a homemade aspirator (or 'Pooter' as the scientists call them – don't ask me why). Photos appear hereabouts showing the basic layout of this device. You create a vacuum in the collecting chamber (an empty peanut paste jar in this case) by sucking on the shorter plastic tube while directing the other towards the queen bee. This draws her safely into the bottle, her fall cushioned by a thin layer of foam plastic on the bottom. If you decide to make yourself a Pooter just ensure the bottom end of the suction tube is securely covered by fine mesh gauze as shown or you could find out that queen bees have a slightly nutty flavour but are rather squishy on the palate.

Okay so you've got the brood safely into your new box along with some provisions, but the success of your transfer is going to depend upon how many bees you can now recover. The old entrance you stuck on the front will help in attracting the bees to their new front door, but in all the confusion caused by the destruction of their old home they will need a little more help than that. Put the lid back on your hive and try to position it as closely as possible to the spot that was occupied by the old nest prior to the transfer. This may be impossible if the colony was high up in the tree you have just felled, but at least try to position it so that it is oriented the same way. You did note which way the old entrance faced before you fired up the chainsaw, didn't you?

Mounting the new hive temporarily on a steel picket driven into the ground at the site of the old nest is recommended. It will hold the hive securely and keep it up off the ground. A couple of those long pipe cleaners kids use for their craft work wrapped around the post and soaked in oil will deter ants from attacking the disrupted colony. Taping up the joins in the hive can also help to prevent attack by other opportunists such as Syrphid and Phorid flies that are drawn to the scent of a disrupted hive. Given half a chance they will lay their eggs near cracks and joins so their larvae can later sneak inside. If they gain entry in sufficient numbers these larvae will destroy the new hive's stores and ultimately the colony itself.

It's now time to start cleaning up the remains of the old hive and in so doing trying to encourage as many bees as possible to look for their new home. Remove the honey and pollen pots and store them in your clean plastic bucket with a lid. Blow, shake or use a soft long bristled brush or small nylon broom to gently remove as many bees as possible. Seal the bucket when you have finished this part of the exercise to prevent bees from returning to these nest components. When you get home the honey pots can be squeezed and strained through a piece of fine mesh cloth or nylon stocking material to recover the tangy bush honey. This can later be fed back to the bees or used for your own consumption. In the latter case try to avoid, as much as possible, the inclusion of pollen in the mix as this tends to taint the flavour of the honey.

There will still be a lot of hive debris about, most of it covered with bees. Using the same methods you employed for the honey and pollen pots remove as many bees as possible from the pieces of rubble before carrying this debris well away from the transfer site. Placing this rubble in full sunlight will also help to remove any remaining bees from it. The two main components of the old trunk may need further splitting to dislodge any bees in deep cavities. The fumes from a piece of cloth soaked in a little Tea Tree oil and jammed into inaccessible parts of the log can also help to drive out the remaining bees. A mate of mine simply turns each part of the log over and delivers an almighty blow with a sledgehammer to the outside before discarding each half well away from the site. Most of the bees are dislodged by the jolt and while they appear to be briefly stunned they quickly recover and take off, usually in the

direction of the new hive. It works for him and he has accumulated one of the largest collections of stingless beehives in Australia.

It becomes a waiting game now so you can afford to relax and clean up. No doubt your hands will be sticky, not just from honey but also from handling all the cerumen and tree resins in and around the hive. Methylated Spirits will dissolve these resins and a small spray bottle of it is a great aid to cleaning yourself up – followed by some soap and water and a towel. Aren't you glad you brought your biggest mate with you to carry all this stuff?

I usually fill in the time at this stage by putting the billy on the fire before sitting on the end of the log and beginning the tedious task of cleaning the sawdust and chips out of my socks and boots because I've forgotten to wear my sock protectors yet again. You may prefer to go away and come back a little before dark.

By dusk all bees that are capable of doing so should have found their new home. If your hive has an observation panel, take a quick peek inside. Hopefully the brood area will be black with bees, all busy trying to protect, stabilize and secure this most precious component – the future of their colony.

Seal up the hive entrance with a ventilated plug or with some porous material to allow them some ventilation on the way home. A small section of fly screen mesh or nylon stocking material placed over the entrance and taped around the edges works quite well, as does a twist of shade cloth pushed into the entrance hole. Don't forget the drain holes in the bottom. A small twist of shade cloth in these will confine the bees but still allow the honey to drain through.

Now while you carry the hive carefully back to your car get your mate to remove the steel picket and collect the chainsaw, wedges, crowbar, sledgehammer, beach umbrella and bucket of honey. Just make sure he doesn't lose any of your smaller items of equipment in the long grass in the dark before you agree to shout him a beer on the way home.

John Klumpp

IN THE GARDEN WITH PETER

A first time visitor to the garden during summer 2005-2006 was the Bright Cornelian (*Deudorix diovis*). Two specimens were observed flying around an area of the garden that contains both Blue Quandong (**Elaeocarpus grandis*) and the related Hard Quandong (*E. obovatus*). *E. grandis* is listed as a host plant for the larva, which feed inside the fruit. *E. obovatus* was in fruit at the time and may be a host plant. None of the known host plants in my garden were in fruit at that time. One male Bright Cornelian, obligingly sat while I photographed it, but refused to open its wings to reveal the bright orange upper surface, which was tantalizingly obvious through a tear in its wing.

This beautiful member of the Lycaenidae family, continually moved its tiny tails up and down (to resemble antennae), in an effort to distract any would be predator away from its real head towards its rear end. Along with its terminal eyespots, these tails give the appearance of a second head.

In May 2006 a freshly emerged female Bright Cornelian was found in the same area of the garden. This time *E. grandis* was in fruit, and some days later after strong winds had caused a branch to come down, evidence of larva activity was found. While cleaning up the fallen branch, which contained several green seeds, I noticed some were discoloured and that these varied in size, some only 3mm across, while all the green seeds were of a similar size, about 15mm. A closer inspection revealed all the discoloured ones had holes in them and further evidence of larva activity was the fact that they had been tied back to the main stem by silk. This is done to prevent the seed from falling with the larva in it.

Another rare visitor was a male Purple Crow (*Euploea tulliolus*), only the second I have seen in the garden, the first being about seven years ago. Lately I have been blessed with a pair of White-banded Planes (*Phaedyma shepherdi*). While not rare in the garden they are not common either. I only see one or two each year. I love the way they glide during their flight. Seeing this always reminds me of my first sighting, as a teenager, on the Russell River in North Queensland.

* The name *Elaeocarpus grandis* has in recent years been dropped by some authors and *Elaeocarpus angustifolius* used instead in the check list of Queensland plants, Names and Distribution of Queensland Plants, Algae and Lichens published in 2002 by the Queensland Herbarium, the curator of ELAEOCARPACEAE G.P.Guymer does not list *Elaeocarpus angustifolius* only *Elaeocarpus grandis.* Braby in his work Butterflies of Australia Their Identification, Biology and Distribution lists the plant as *Elaeocarpus angustifolius*.

Peter Hendry

Bright Cornelian (*Deudorix diovis*)

Photos by Peter Hendry

LETTERS

These are the last of **Jon Marshall's** French butterflies needing identification. From the photos in the last issue we received the following identifications from Steve Curle and John Moss. Of the Whites photos 1a and 1b, they both agreed that the 2 butterflies were the Orange Tip (*Anthocharis cardamines*). They also agreed that photo 2 was the female Brimstone (*Gonepterzx rhamni*). Well done!

Browns (Nymphs) →

1) I am guessing this is a form of Admiral, but I could be wrong! It is blackish with orange bands and white spots on the forewings and paler orange on the hind wings with blue spots on the inner margins. It was very keen on this small herb which might be its host plant I suppose.

2) I know there is a European butterfly called a tortoise-shell and I think one of these two similar species might be it. Both were very well camouflaged with their wings closed, has scalloped wing margins and tended to perch on trees where they slowly opened and closed their wings.↓ →

Swallowtails →

I saw these fast-flying swallowtails everywhere and for days was frustrated that they never landed to offer me a photo opportunity. I finally beat them though and found them drinking from wet sand by a river.

Email bowden@itconnect.net.au to see them in colour

A letter from The Alice.

I guess I feel a little uncertain as to where to begin. So, I think I will just write and see how it goes.

I became involved through Ross Kendall, the man I always pestered for knowledge regarding butterflies, yes, butterflies!

You see it all started when my son Braydon was at Preschool and his Teacher mentioned that they had some silkworms for those who wished to show their children how they develop through various stages of life. On this day, September 4th 2006, I picked Braydon up from Preschool and was handed a shoebox with two tiny mulberry leaves and what looked like many black specks on them. On a closer inspection of these 'specks' I noticed very tiny caterpillars. WOW! So many! Not thinking too much of them, I took them home. I collected leaves with Braydon, every morning, and after a few days you really saw these specks grow! Boy, did they grow and so fast. I started to read up about these silkworms making sure I was looking after them correctly. I lost a few of them, and learned why I was losing them. They would enter what is fondly known as a "praying" position, just before they were about to moult. During this stage, I sometimes moved some as I was cleaning them and with silkworms if you manage to bump them, they can lose balance and find it very difficult to moult, so they often just died if they were unable to recover. Braydon fell in love with their size and often wanted to watch T.V. with them sitting on his hand. I wouldn't allow that so much, so he was allowed to hold them for a short period and had to let them go back in the container to do what caterpillars do best – EAT!!!

By this stage, I have fallen in love with the creepy crawlies and went out to my garden late one night, to see what else I could find. At this stage I was beginning to think I was a little mad as I was obsessed with caterpillars. I went out with a torch and my husband in-tow. On a citrus tree, we came across this huge caterpillar, green in colour with what looked like a white stripe on its side. Having no idea of what it was, I brought him inside with a few leaves. I jumped on the computer to get online and searched and searched until I was almost falling asleep at the computer. AH HA! I found what I thought was a Chequered Swallowtail caterpillar. After doing an extensive search on the Internet, I found what the larvae looks like in the first instar (What on earth is an instar? What insane language is this? Who are these strange people that write this stuff?) The next night, once again, torch in one hand, husband in the other, I went out to the citrus tree, as I recalled seeing little black caterpillars on the same citrus tree. So we are out there searching and came across these tiny black caterpillars. It was insane, I was finding them everywhere, and I was taking every single one that I could find! I mean, after what I had read about how many of these caterpillars actually live until they turn into a butterfly, I had to have them all! Oh My God! I was now an insane person, one that was obsessed with butterflies!

There I was living at the computer, learning everything and anything I could find about butterflies. That is where I found Ross Kendall and his butterfly site *www.butterflyencounters.com.au.* That is where I found someone that was willing to listen and RESPOND to me - this crazy woman!

This has been such a wonderful part of my life. These past five months have been wonderful and something that has excited me. I have learned so much about butterflies, the difference in species, the way they live, how long some live etc. It has also been a wonderful teaching experience for Braydon. He enjoys the release of the butterflies so much more than anything. I remember our first caterpillar, the one we found in the citrus tree as a 5th instar. He named him "Mac" and Mac took about 2 weeks and 4 days to eclose. (Yes, I have learned a few words!) and Braydon wasn't at all excited about releasing him. He wanted to keep him. Times have changed and Braydon absolutely loves the idea of releasing butterflies, and at one stage he was most upset when I told him that I couldn't bring anymore inside for a few weeks because we had so many (approx 50 odd caterpillars, 20 odd eggs and about 30 pupae!) He then said if we don't bring them inside the spiders would eat them, or stink bugs would get them, and then what about the birds and geckoes! Well, he was actually listening to me when I was telling him things. So, for his pleasure, we collected some more larvae and eggs and brought them inside. It put a smile on his face, which in turn put one on mine. It is the sweetest thing to look down to a little face with saddened eyes and say "Okay, we can bring some more in" and watch the sad face turn into something so bright and happy!

Since September I have found Chequered Swallowtail, Dainty Swallowtail, Lemon Migrant, Caper White, Lesser Wanderer, Australian Painted Lady, Common Grass-Blue, Yellow Skippers and many other common Skippers and Nymphs in my garden.

I have learned so much and it has been a wonderful experience that I have now passed onto my family the joys of watching a butterfly grow. My family recently visited over Christmas and it was wonderful. Having my family here introduced them to a new world, one with butterflies. They really enjoyed it, especially my Mum who absolutely adored releasing them. My Mum would squish anything in her garden. If it ate her plants, it was sure to be dead! She now has a new love for caterpillars, well, the butterfly kind! Since learning what the caterpillars were, they are now allowed to live on her citrus plants and munch away happily. Though, she hasn't changed her mind on other caterpillars, bugs and other things that munch away at her plants.

My sister is now going home to see what she can find in her garden and now wants a citrus tree of her own. She was so curious and had many questions about the butterflies. She was truly fascinated by the various stages and was extremely excited when I took her outside and she was able to find her own caterpillars.

I think it is truly magical, because when you are a little kid, especially a little girl, you play in the backyard and watch the butterflies flutter along and you just wish you could catch one to hold, secretly wanting to keep it, as at that age you don't know any better, especially if you haven't been taught. Butterflies are like fairies and you just want to get so close to one. So when you actually do get close to a butterfly for that very first time it is a magical experience. It is even better when you release one and you know that you just may have saved his/her life.

Life is funny in a way. All it takes is to show someone the life span of a butterfly from egg, larva to pupa, and then finally to the beautiful stage of the butterfly and they are instantly hooked.

I think humans are so self absorbed with their own life, with their material world that they really don't pay attention to the world around them and how wonderful nature truly is and they neglect it. Just like the world itself, if you ignore it, it will go away. Education is such an important thing and without it, I fear, we will eventually destroy this planet or most of the living organisms in it, and that would be such a sorrowful event. We have to teach the younger generation the importance of life and of anything that lives. It is for a reason… well, most things!!!

Right now, I am trying to teach to Braydon the importance of rain. How it makes things grow so that the plants can grow, the dams and creeks fill up, so that animals can live from the plants and water, and that we people need all these things to survive and if we don't appreciate these things and ignore them, we and the animals will die. Just like the importance of knowledge of the environment, I am trying to teach him the values of life, manners, treating people with the same respect that he would wish for himself and to be a responsible, kind and honest person. It is my job and I have the power to nurture and guide him to be a better person. I believe if I do this now, he will carry this on as an adult (that is the plan) Unfortunately, I think some parents don't really think of these things, the building blocks or the essentials of life. I think they forget to teach these values to their children, the same things that I was taught way before the "The Three R's"! It isn't too late to save kids from going down the wrong path, one to destruction. We just have to care enough to share.

Life is so precious… just like a butterfly.

Angelique Tinker

SEED BANK NEWS

The following seeds are available by sending two 50c. postage stamps to BOIC Seed Bank Curator, 140 Henderson Road, Sheldon 4157, please supply your name and address and which seeds you require.

The following seeds are new additions to the Bank

Acacia concurrens	Blue Jewel (*Hypochrysops delicia*), Emerald Hairstreak (*Jalmenus daemeli*), Common Imperial Hairstreak (*J. evagoras evagoras*), Stencilled Hairstreak *(J. ictinus*)
Cullen tenax	Chequered Swallowtail (*Papilio demoleus sthenelus*), Common Grass-blue (*Zizina labradus labradus*), Tailed Pea-blue (*Lampides boeticus*)
Urtica incisa	Yellow or Australian Admiral (*Vanessa itea*)
Asystasia gangetica #	Blue Argus *(Junonia orithya albicincta*), Blue-banded Eggfly (*Hypolimnas alimena lamina*), Common or Varied Eggfly (*Hypolimnas bolina nerina*), Danaid Eggfly (*H. missipus*), Australian Leafwing (*Doleschallia bisaltide*)

Seeds previously listed

Aristolochia acuminata	Richmond Birdwing (*Ornithoptera richmondia*), Clearwing Swallowtail (*Cressida cressida*),
Glycosmis trifoliata	Orchard Swallowtail (*Papilio aegeus*), Fuscous Swallowtail (*Papilio fuscus capaneus*)
Paraserianthes lophantha	Large Grass-yellow (*Eurema hecabe*), Tailed Emperor (*Polyura sempronius*)
Senna acclinis	Large Grass-yellow (*Eurema hecabe*), Small Grass-yellow (*Eurema smilax*), Yellow Migrant (*Catopsilia gorgophone*)
Senna auriculata #	Common Pencilled-blue (*Candalides absimilis*), Large Grass-yellow (*Eurema hecabe*), Yellow Migrant (*Catopsilia gorgophone*), Small Grass-yellow (*Eurema smilax*), Orange Migrant (*Catopsilia scylla*),
Senna surattensis	Yellow Migrant (*Catopsilia gorgophone*)
Wilkiea huegeliana	Regent Skipper (*Euschemon rafflesia*)

Note: # Exotic

There are only a few *Wilkiea* seeds and they may not be viable. We have had a request for the tiny seeds of the Native Mulberry (*Pipturus argenteus*). Can anybody help?
Also if you require any seeds not listed please let us know and we will try to supply them for you. If you have seeds of any butterfly host plants you are able to contribute to the Seed Bank please do so. Peter can be contacted at the above address or phone 3206 0048.

PUBLICATIONS AVAILABLE FROM BOIC

All Booklets – Add Postage and handling $1.10 each item anywhere in Australia

Grow More Butterflies – Featuring butterflies and their host plants - **$5.50**

Butterfly Gardening – How to establish a Butterfly Garden - **$2.20**

Butterfly Host Plants of S.E. Qld. and Nth. NSW –
Revised May 2005 - A comprehensive list of host plants - **$8.50**

Butterfly Habitat Regeneration Project – A project undertaken by a Rockhampton School applicable to anyone wanting to establish an area for butterflies - **$3.00**

Swallowtail Butterflies of S.E. Qld. – A companion booklet to the poster - **$4.50**

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All Posters – Postage and handling $5.00 anywhere in Australia

Lifecycles of the Swallowtail Butterflies of S.E. Qld. –
Showing the 10 Swallowtail Butterflies of S.E. Qld. - Members **$6.00**
Non-members **$10.00**

The Butterfly Alphabet Poster – shows letters of the alphabet appearing in the wings of butterflies and moths Members **$23.00**
Non-members **$25.00**

Dragonflies of Brisbane Members **$9.00**
Non-members **$10.00**

Discovering Australian Butterflies – a companion to the book **$9.00**

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Other Publications:

Create More Butterflies – A guide to 48 butterflies and their host-plants for S.E. Qld. and Nthn. NSW Members **$22.45** + $4.00 P&P
Non-members **$24.95** + $4.00 P&P

Discovering Australian Butterflies – a simple guide to Australia's most common

butterflies **$29.95** + $5.00 P&P

Garden on the Wing: attracting birds and butterflies to your garden by Garry Sankowsky **(CD-ROM format)** **$22.00** + $2.25 P&P

Insects and Spiders: Brisbane and near areas **(CD-ROM format)** **$40.00** + $2.35 P&P

Butterflies – Lifecycle and Survival Strategies – produced by the Coffs Harbour Butterfly House – **(DVD format)** Members **$12.00** + $2.00 P&P
Non-members **$15.00** + $2.00 P&P

World Wide Websites to Watch

http://www.geocities.com/brisbane_dragons/ - This site contains pictures and information about Dragonflies and Damselflies found in the Brisbane area.

http://www.abc.net.au/science/scribblygum/february2005/ This ABC ScribblyGum site features Giant Dragonflies.

http://www.insectsocietywa.org.au – The site of the Western Australia Insect Study Society Inc. Jan Taylor has put together a series of photographs covering all Western Australian dragonflies and damselflies in a form suitable for a CD-Rom. It may shortly be available on this site.

Back Issues

Back Issues of the Club Newsletter are available at a cost of $2 each plus postage (1-2 copies $1.10 - 3-6 copies $1.50).

Other Groups' Activities

Merri Merri Park Fun Day - Merri Merri Bushcare, Habitat Brisbane and Cubberla Witton are organising a community day down at **Merri Merri Park, Greenford Street, Chapel Hill** on the **1st April**. - 7am-8am- Bird Walk, 8am-10am - Planting (500 plants), (from 9:30 other kids activities - craft, face painting etc. continuing until 10:30), 10-10:30 - Morning Tea, 10:30-11:30 - Speakers: Margaret Dewitt, Tom McHugh et al , 11:30-12:30 - Gecko Wildlife Display, 12:30 - Finish
All day presentations: BCN Display; Water Resources Display; Habitat Brisbane Display; CWCN display; Butterfly and Other Invertebrates Club display.

The Society for Growing Australian Plants (Qld Region) Inc. will hold their Autumn Sale of Australian Native Plants on **Saturday 21st April 2007** from **9 am to 3 pm** at the **Grovely TAFE**. A wide range of Native Plants will be on sale - Rare - Old Favourites - Grafted Unusual - Drought Tolerant - Bird, Frog or Insect Friendly.

The prices are friendly too. Admission FREE. For more information - call 3843 2887 or 3376 6168 (a.h.) SGAP Qld Region 'on line'- www.sgapqld.org.au

Indigi Day Out – 2nd and 3rd June – Discover the wonders of IndigiScapes on this fun-filled family weekend. Steve Parrish will present a wildlife photographic workshop from 11 am on Saturday and stay on afterwards to answer questions. There will also be many wildlife displays and mini workshops plus a music festival.

BUTTERFLY AND OTHER INVERTEBRATES CLUB PROGRAMME

Merri Merri Park Fun Day (see Other Groups' Activities for details)

What:	BOIC will have a display at this event
When:	Sunday, 1st April from 8am to 12.30 pm
Where:	Merri Merri Park, Greenford Street, Chapel Hill

Annual General Meeting

What:	Our Annual General Meeting and election of Office Bearers. This will be followed by a walk through the Display Gardens attached to the Centre. IndigiScapes Tea Gardens cater for delicious morning teas, lunches, and afternoon teas at a very reasonable cost if you wish to partake before or after the meeting.
When:	Sunday, 29th April, 2007 from 1-2pm for the AGM
Where:	Redlands IndigiScapes Centre, 17 Runnymede Road, Capalaba

Planning and Management Meeting

What:	Our planning meetings are informative and interesting. As well as planning our activities we share lots of information. All members are welcome as this activity is also a general meeting of members.
When:	Saturday, 12th May at 2 pm
Where:	to be advised on RSVP
Contact:	Daphne 07 3396 6334 or email bowden@itconnect.net.au to RSVP or for more details

Indigi Day Out (see Other Groups' Activities for details)

What:	We will be holding a display with mini workshops on butterflies and native bees
When:	2nd and 3rd June from 9am to 4 pm
Where:	Redlands IndigiScapes Native Botanic Gardens, 17 Runnymede Road, Capalaba
Contact:	Daphne 07 3396 6334 or email bowden@itconnect.net.au for more details or IndigiScapes on 3824 8611

If you plan to attend one of the above events, please contact the person indicated in case, for some unforeseen circumstance, the event has had to be postponed or cancelled.

Disclaimer

The Newsletter seeks to be as scientifically accurate as possible but the views, opinions and observations expressed are those of the authors. The Newsletter is a platform for people to express their views and observations. These are not necessarily those of the BOIC. If inaccuracies have inadvertently occurred and are brought to our attention we will seek to correct them in future editions. The Editor reserves the right to refuse to print any matter which is unsuitable, inappropriate or objectionable and to make nomenclature changes as appropriate.

Acknowledgments

Producing this newsletter is done with the efforts of:

- Those members who have sent in letters and articles
- Lois Hughes who provides illustrations including the cover
- Daphne Bowden who works on layout, production and distribution
- John Moss, Martyn Robinson and Deniss Reeves for scientific referencing and proof reading of various articles in this issue of the newsletter
- Helen Schwencke for conceiving the original idea for a Newsletter

We would like to thank all these people for their contribution.

Are You a Member

Please check your mailing label for the date your membership is due for renewal. If your membership is due, please renew as soon as possible.

Membership fees are $15.00 for individuals and $20.00 for families, schools and organizations.

Would you please advise bowden@itconnect.net.au if you get or change an email address.

Butterfly and Other Invertebrates Club Inc.
PO Box 2113
RUNCORN Q. 4113

Next event — Merri Merri Park Fun Day, 1st April - See BOIC Programme for details